MERCY WANGUI MUIRURI

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EDUCATION

Northwestern University **Expected Graduation: June 2027**

Bachelor of Science in Computer Science, Minor in Machine Learning and Data Science GPA: 3.69

Relevant Coursework: Data Structures and Algorithms; Cloud Computing; Computer Systems; Networking

Fellowships: Amazon Campus Series, MongoDB Summit, Colorstack, Rewriting the Code, NSBE, SWE

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, TypeScript, Terraform, C++, C, SQL, HTML, CSS

Frameworks: React, React Native, Node.js, Express.js, FastAPI

Industry Tools: Kubernetes, Docker, Swagger API, DropWizard, Maven, Github CI/CD, Shepherd

TECHNICAL EXPERIENCE

Software Engineering Intern | Oracle **June 2025 – September 2025**

- Accelerated execution time by 75% by using Terraform to provision infrastructure for inheriting dynamic configurations
- Resolved 48 infrastructure issues using devOps Kubernetes CI/CD pipelines to execute releases preventing bugs in prod
- Engineered RESTful APIs achieving 99% restoration success rate using Java, Docker for microservice containerization
- Optimized database rollback latency from 30 to 2s by using Oracle SQL to build idempotent ACID transaction queries
- Shipped two backend services using Java frameworks like Swagger API to automate API specs and abstract classes, DropWizard for compilation and Maven to run sanity checks reducing manual errors and increased code reliability

Software Engineering Fellow | Netflix x Formation **May 2025 – September 2025**

- Chosen as 1 of 47 out of 2500+ applicants to get mentorship from Netflix engineers and engage in 80+ hours of system design deep dives like replication and throughput by analyzing real-world architectures and scalability tradeoffs
- Conducted 20+ code review sessions increasing DSA performance as measured by weekly technical interview assessments

Full-Stack Engineer | Institute of Electrical & Electronics Engineers **March 2025 – June 2025**

- Won Northwestern's 2025 IEEE competition in a team of 7 by building a full-stack volunteer matching application
- Developed frontend interface using 17 React components, HTML layout and Bootstrap CSS to display volunteer postings
- Streamlined UI rendering of profile illustrations by using JavaScript for lazy loading and TypeScript for static type checks
- Designed PostgreSQL database of 4000 volunteer posts with row-level security policies and session JWT for authorization
- Deployed Node.js backend and Express.js framework for 22 api endpoints for rate-limiting and CORS request handling

Data Structures & Algorithms, Teaching Assistant | Northwestern **January 2025 – March 2025**

- Designed and graded DSA assessments for 163 students, raising mean to 75% by collaborating with 15 peers and faculty
- Improved runtime performance across **24** final projects by teaching Big O trade-offs on hashing and graph optimization.
- Debugged logic errors in 163 students' code by teaching debugging techniques and test-driven development like unit testing

PROJECTS

JPMorgan Chase Data for Good Hackathon | Python, NumPy **April 2025 – April 2025**

- Pioneered a predictive course framework by processing datasets with 10,000+ school records for Title 1 schools across 33 states using Python (Pandas, SciPy, NumPy) and presented statistical analysis to Managing Directors at JPMorgan
- Analyzed data for 477 schools using Numpy for batching, scikit-learn for class records analysis and seaborn for visualization

Visually-Impaired ML Study App | AWS, OpenAI **January 2025 – March 2025**

- Architected a serverless PDF-to-audio application for the visually impaired by integrating AWS Polly for audio compilation, Python + AWS Lambda for serverless execution, API Gateway for efficient traffic routing, and S3 for scalable storage
- Cut request latency by 50% by event-driven AWS S3 triggers, asynchronous JavaScript and multi-threaded concurrency
- Integrated pdf summaries using AWS Rekognition AI for image labeling and OpenAI's transformer API for text generation

LEADERSHIP AND EXTRACURRICULARS

Northwestern Formula Racing Organization | Project Lead **September 2024 – May 2025**

- Directed a 4-person engineering team to design, develop and integrate a telemetry platform to visualize data from all 80 sensors on the car enabling data-driven analysis of car's performance, delivering a fully operational Formula One car
- Deserialized 50,000 binary rows to sturctured objects using object-oriented Python ORM layer to map car signals